

**WHAT IS CLAIMED IS:**

1. An electrophoresis analysis apparatus comprising:
  - a plurality of migration passages;
  - a sample tray holder capable of removably fixing a sample tray including a plurality of sample vessels for containing samples;
  - a detector for optically detecting sample components separated by electrophoresis;
  - a power supply for applying a voltage to the migration passages,
  - wherein said sample tray comprises an electrode capable of contacting the sample in at least one of said plurality of sample vessels;
  - wherein a part of the sample tray holder is electrically connected to the power supply; and
  - wherein said part of the sample tray holder is electrically connected to said electrode in response to fixing the sample tray on the sample tray holder.
2. An electrophoresis analysis apparatus according to claim 1, wherein the part of the sample vessel is transparent.
3. An electrophoresis analysis apparatus according to claim 1, wherein the electrode is made of a stainless steel.
4. An electrophoresis analysis apparatus according to claim 1, and further comprising a current detection circuit to monitor a current for each sample.
5. An electrophoresis analysis apparatus according to claim 1, wherein the sample tray comprises a plate portion having a plurality of openings and a metal base portion fixed on a bottom portion of the plate portion.
6. An electrophoresis analysis apparatus according to claim 5, wherein the sample tray further comprises metal pins fixed on the metal base portion, the metal pins having portions projecting in the openings of the plate portion.
7. An electrophoresis analysis apparatus according to claim 1, wherein the sample tray comprises a metal plate portion having a plurality of openings and a base portion fixed on a bottom portion of the plate portion.

8. An electrophoresis analysis apparatus according to claim 1, wherein the sample tray comprises a plate portion having a plurality of openings; a base portion fixed on a bottom portion of the plate portion; and a plate or wire made of conductive material, the plate or wire being in contact with samples.
9. An electrophoresis analysis apparatus comprising:
  - a migration passage;
  - a sample tray holder capable of removably fixing a sample tray including a sample vessel for containing a sample;
  - a detector for optically detecting sample components separated by electrophoresis;
  - a power supply for applying a voltage to the migration passage,
  - wherein said sample tray comprises an electrode capable of contacting the sample in said sample vessel;
  - wherein a part of the sample tray holder is electrically connected to the power supply; and
  - wherein said part of the sample tray holder is electrically connected to said electrode in response to fixing the sample tray on the sample tray holder.
10. An electrophoresis analysis apparatus according to claim 9, wherein the part of the sample vessel is transparent.
11. An electrophoresis analysis apparatus according to claim 9, wherein the electrode is made of a stainless steel.
12. An electrophoresis analysis apparatus according to claim 9, and further comprising a current detection circuit to monitor a current for a sample.
13. An electrophoresis analysis apparatus according to claim 9, wherein the sample tray comprises a plate portion comprising an opening and a metal base portion fixed on a bottom portion of the plate portion.
14. An electrophoresis analysis apparatus according to claim 13, wherein the sample tray further comprises a metal pin fixed on the metal base portion, the metal pin comprising a portion projecting in the opening of the plate portion.

15. An electrophoresis analysis apparatus according to claim 9, wherein the sample tray comprises a metal plate portion comprising an opening and a base portion fixed on a bottom portion of the plate portion.

16. An electrophoresis analysis apparatus according to claim 9, wherein the sample tray comprises a plate portion comprising an opening; a base portion fixed on a bottom portion of the plate portion; and a plate or wire made of conductive material, the plate or wire being in contact with sample.